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LD-450-100MG

- **Blue Laser Diode**
- **450 nm, 100 mW**
- **Single Mode**
- **5.6 mm TO Package**

Description

LD-450-100MG is a blue **single transverse mode** laser diode, based on InAlGaN structure, typically emitting at 450 nm, with an output power of 100 mW, and max. allowed operating temperature of 70°C. **LD-450-100MG** comes in 5.6 mm TO-Can package.

Maximum Rating*

Parameter	Symbol	Values		Unit
		Min.	Max.	
Operating Temperature*	T_{OPR}	- 20	+ 70	°C
Storage Temperature*	T_{STG}	- 40	+ 80	°C
LD Reverse Voltage	U_R		2	V
Soldering Temperature (t_{MAX} = 3 s)	T_{SOL}		+ 260	°C

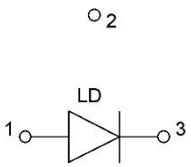
* Operating close to or outside these conditions may damage the device

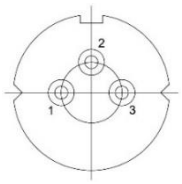
Electro-Optical Characteristics (T_{CASE} = 25°C)

Parameter		Symbol	Values			Unit
			Min.	Typ.	Max.	
Peak Wavelength		**λ_P**	**440**	**450**	**460**	**nm**
Linewidth		λ_D		1		nm
Optical Output Power (CW)		P_O		100		mW
Operating Voltage		U_F		5	7	V
Threshold Current		I_{th}		15	30	mA
Operating Current		I_F		90	130	mA
Beam Divergence (FWHM)	parallel	$\Theta\parallel$		10		deg.
	perpendicular	$\Theta\perp$		22		deg.
Chip Positioning Accuracy		$\Delta X, \Delta Y$	- 80		+ 80	µm
Beam Angle Deviance	parallel	$\Delta\Theta\parallel$	-3		+3	deg.
	perpendicular	$\Delta\Theta\perp$	-3		+3	deg.

Electrical Connection

Pin Configuration	
Pin #	**Function**
Pin 1	LD +
Pin 2 [case]	not connected
Pin 3	LD -





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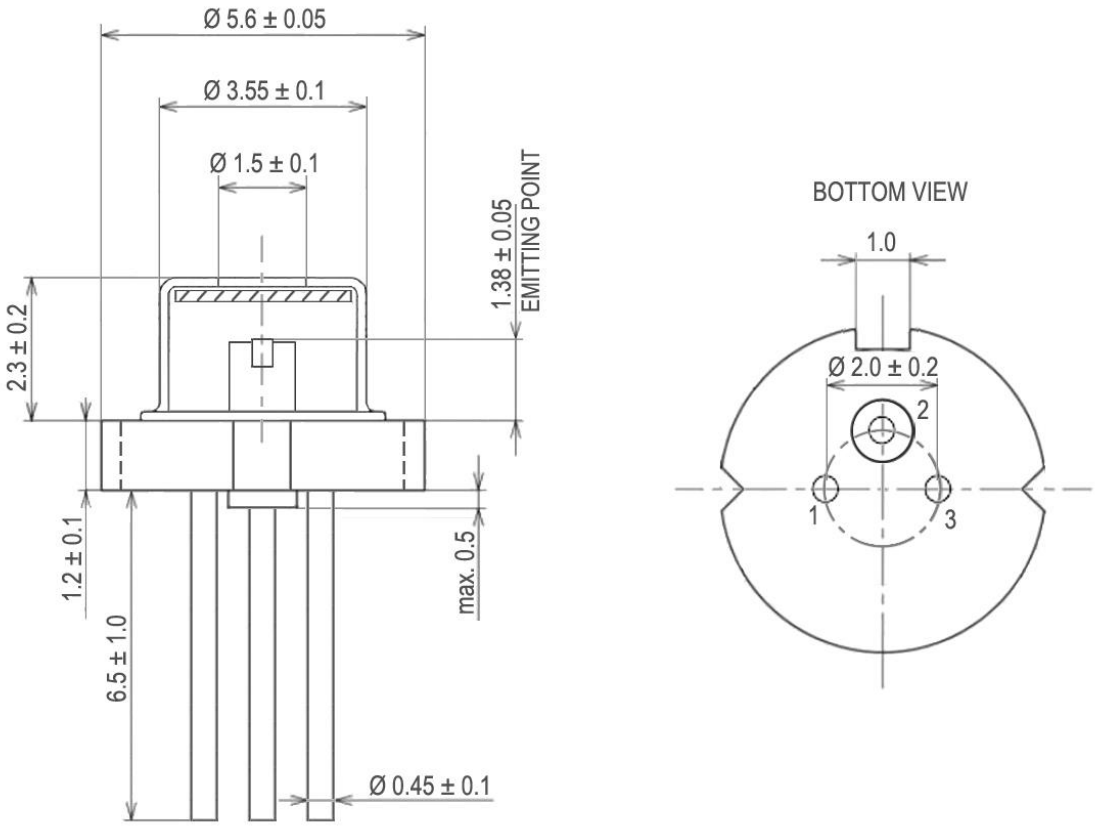
Outline Dimensions

5.6 mm TO-Can



All dimensions in mm

Precautions

Safety

Caution: Laser light emitted from any laser diode may be **harmful to the human eye**. Avoid looking directly into the laser diode's aperture when the diode is in operation.

Note: The use of optical lenses with this laser diode will increase eye hazard

ESD caution

Always do handle laser diodes with extreme care to **prevent electrostatic discharge**, the primary cause of unexpected diode failure. To prevent ESD related failures, we do advise to always **wearing wrist straps**, and **grounding all applicable work surfaces**, when handling laser diodes.

Operating considerations

We do advise to operate this laser diode with a current source only. The current of a laser diode is an exponential function of the voltage across it. **Usage of current regulated drive circuits is mandatory.** Laser diodes may be damaged by excessive drive currents or switching transients

Proper heat sinking will greatly enhance stability and lifetime of the laser diode